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(54) **THERMAL MANAGEMENT FOR A THIN ENVIRONMENTALLY-SEALED LCD DISPLAY ENCLOSURE**

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(51) **Int. Cl.**⁷ **G02F 1/1225**

(52) **U.S. Cl.** **379/161**

(58) **Field of Search** 349/161

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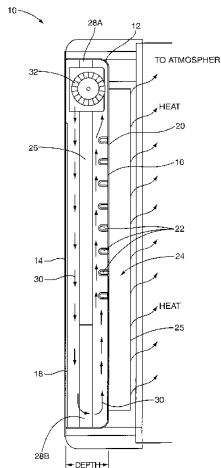
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(57) **ABSTRACT**

The present invention relates to a thermal management system for a thin depth LCD display enclosure. The LCD display enclosure may be used in environmentally sensitive conditions and may be environmentally-sealed to protect the components of the LCD display from environmental conditions. The LCD display components may include a lens and a LCD module, and other heating producing components, such as backlights and electronic circuitry. The heat producing components and any external heat placed on the enclosure causes the ambient air temperature inside the enclosure to rise thereby possibly causing the LCD display to not operate properly. The ambient air temperature inside the enclosure is lowered by transferring heat in the ambient air through the enclosure to a heat sink that is attached on the outside rear portion of the enclosure, and to the atmosphere using forced convection, natural convection, or both.

39 Claims, 4 Drawing Sheets



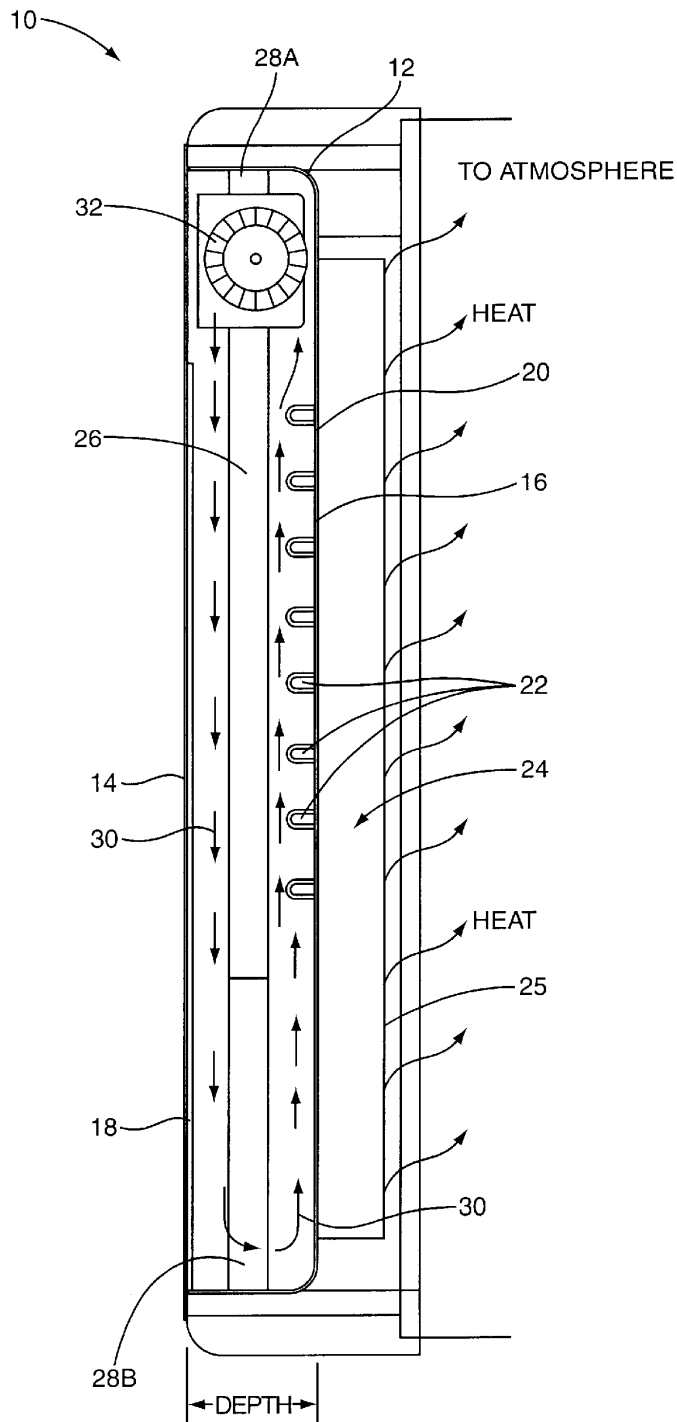


FIG. 1

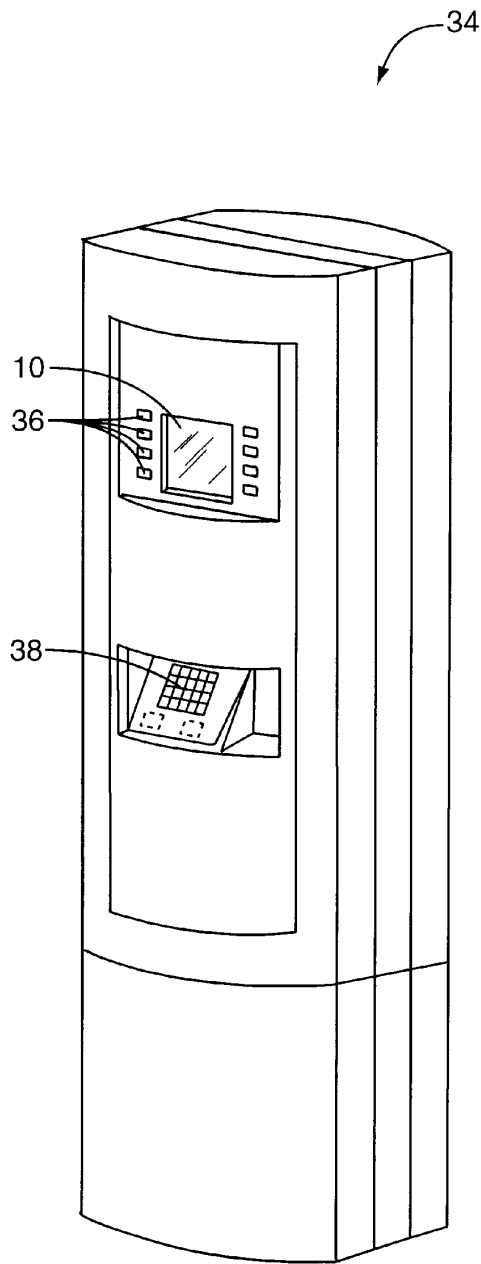


FIG. 2

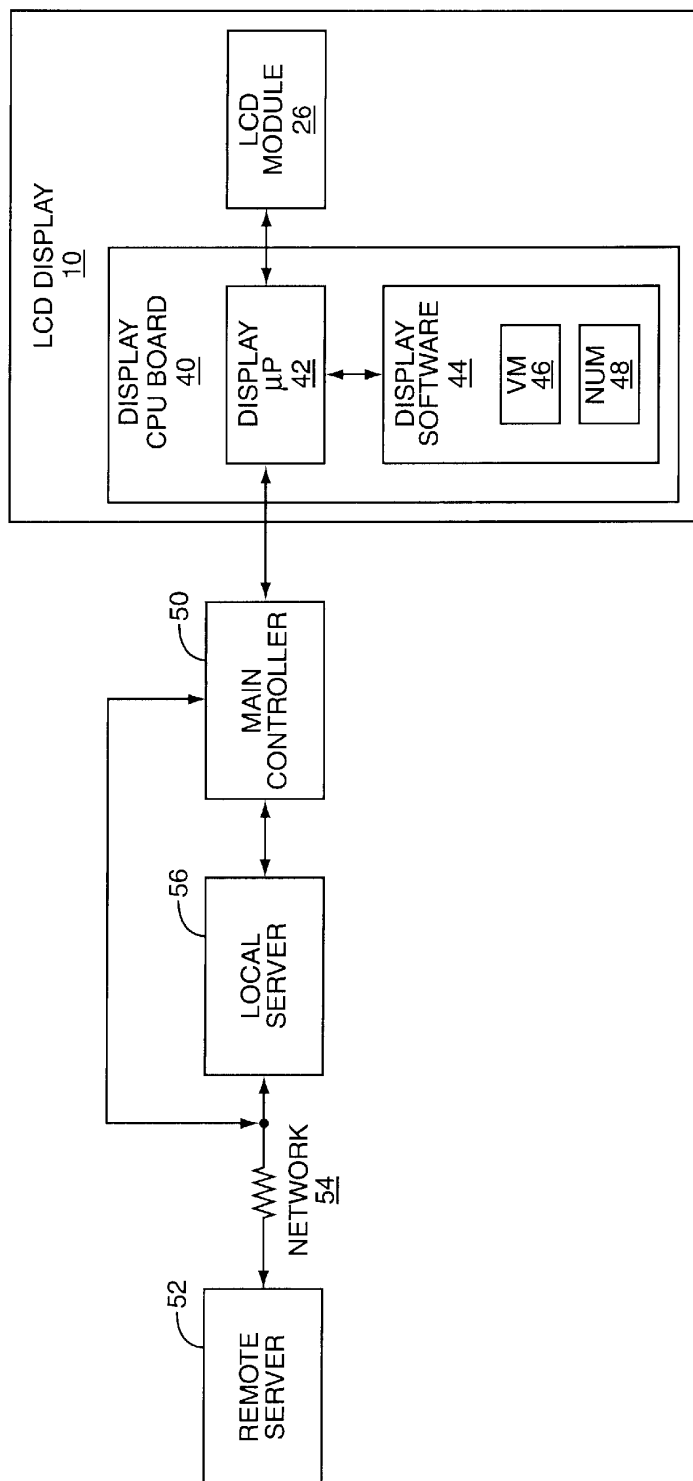


FIG. 3

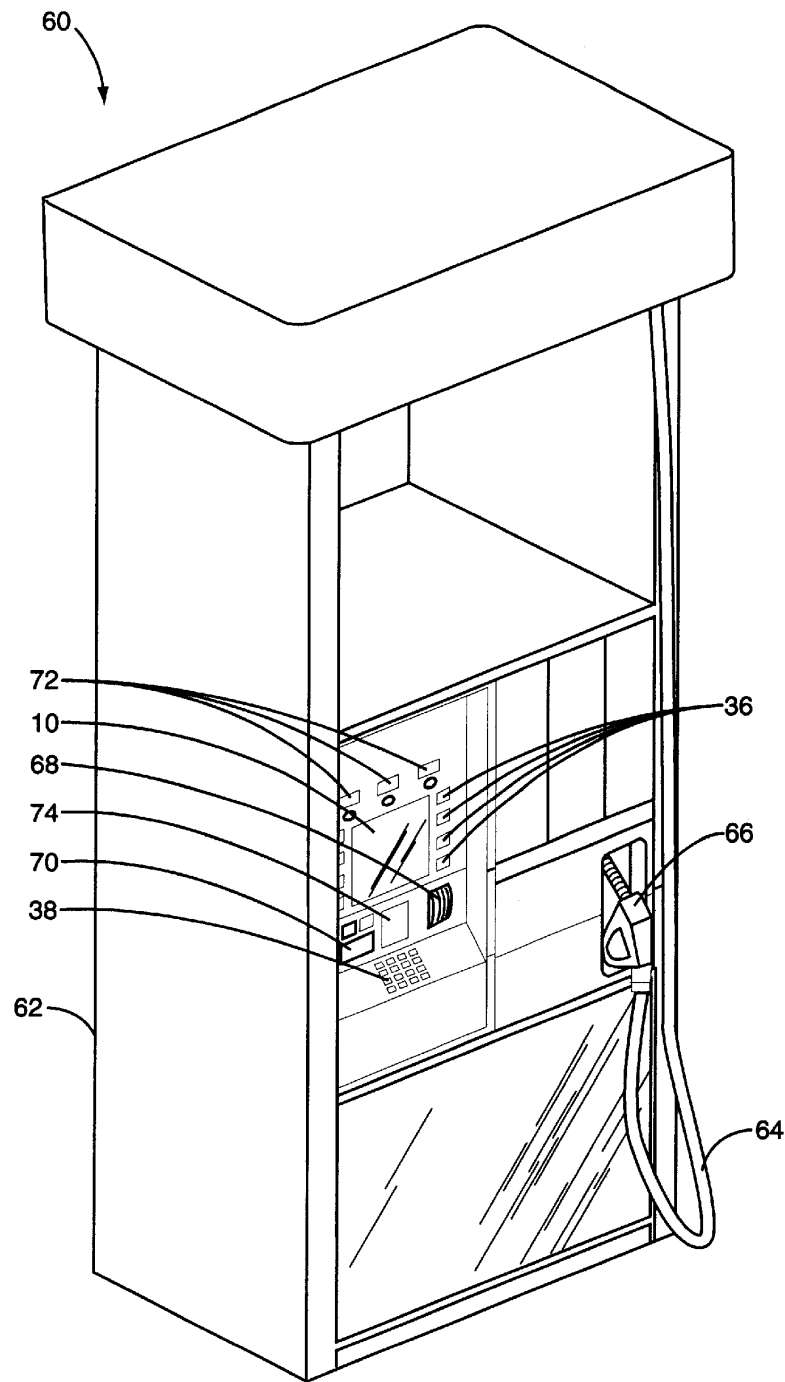


FIG. 4

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